

**REMARKS**

Reconsideration of this patent application in view of the present amendment and these remarks is respectfully requested.

**I. Inventorship**

The correct spelling of the name of the inventor questioned by the Examiner is "Kari Zimmers". As the Declaration and Power of Attorney filed with the present application reflects the correct spelling of the inventor's name, applicant will request a corrected Filing Receipt.

**II. Title**

The title of the application has been objected to as not descriptive. The title has now been amended to delete the reference to an "apparatus" per the Examiner's comments. The amended title is now descriptive of the invention.

**III. Abstract**

The abstract has been objected to as improper in that it is a restatement of the first claim. More particularly, the abstract has been objected to as not providing enough details of the technical disclosure to enable one to understand the nature of applicant's invention and the improvement over the prior art.

It is respectfully submitted that the abstract as written complies with the guidelines of §608.01(b) of the Manual of Patent Examining Procedure ("MPEP"). Specifically, the abstract as written is "a concise statement of the technical disclosure of the patent" and does "**include** that which is new in the art to which the invention pertains" [Emphasis added to quoted language from MPEP]. The fact that the abstract is a restatement of claim 1 of the application necessarily means that the

abstract includes that which applicant considers to be new in the art to which the invention pertains. The proposal in the Office Action that the abstract should include more details of the technical disclosure is contrary to the guidelines in the MPEP not to give extensive mechanical and design details of apparatus in an abstract. As the abstract is in compliance with the MPEP guidelines, withdrawal of the objection to the abstract is respectfully requested.

**IV. Claims**

Claims 1-34 are currently pending. Claims 1-23 and 25-33 stand rejected. Claims 24, 31, and 33 have been objected to. Claims 1, 14, 31 and 33 are now amended to clarify the scope of the claimed subject matter. Claim 34 has been added. Reconsideration of the above-identified application in view of the amendments to claims 1, 31 and 33 and the following remarks is respectfully requested.

**1. Rejection of Claim 23 Under 35 U.S.C. §112**

Claim 23 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is respectfully submitted that claim 23 is not indefinite.

Claim 23 recites a method as defined in claim 22 further including moving the first and second mounting members away from each other to connect the first and second mounting members to the first and second vertebrae.

The Office Action states that there is insufficient antecedent basis for the claim limitation "moving the first and second mounting members away from each

other". According to the Office Action, the claims preceding claim 23 do not set forth that the mounting members were "near" each other, which is necessary for them to be moved "away" from each other.

The feature of claim 23 recited in the language quoted by the Examiner is defined, in part, by the combination of the verb "moving" and the adverb "away". The action defined – namely, "moving away" – is the opposite of "moving toward". There is no underlying necessity for any prior juxtaposition of the recited mounting members so as to be "near" each other. Regardless of whether the recited mounting members are relatively near to each other or relatively far apart, they can be manipulated so as to be moving away from each other. Consequently, there is no missing antecedent basis for the quoted recitation in claim 23, and it is respectfully requested that the rejection of claim 23 under 35 U.S.C. §112, second paragraph, be withdrawn.

**2. Rejection of Claims 1-2, 5-9, 11-16, 19-23 and 26-29 Under 35 U.S.C. §102(b)**

Claims 1-2, 5-9, 11-16, 19-23 and 26-29 have been rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 6,156,067 to Bryan et al. (hereinafter, "Bryan"). It is respectfully submitted that claims 1 and 14, as amended, and claims 2, 5-9, 11-13, 15-16, 19-23 and 26-29 are novel over Bryan.

Anticipation requires a single prior art reference that discloses each element of the claim. W. L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983) *cert. denied* 469 U.S. 851 (1984). For a reference to anticipate a claim, "[t]here must be no difference between the claimed invention and the

reference disclosure, as viewed by a person of ordinary skill in the field of the invention.” Scripps Clinic & Research Foundation v. Genentech Inc., 927 F.2d 1565 18, USPQ2d 1001 (Fed. Cir. 1991).

Claim 1, as amended, recites a method for replacing a damaged spinal disc between first and second vertebrae of a spinal column. The method comprises connecting a first mounting member with the first vertebra of the spinal column. The method also comprises moving an artificial disc between the first and second vertebrae and into engagement with the first mounting member to guide the artificial disc into position between the first and second vertebrae. The artificial disc includes a resilient core having a first surface and a second surface. The artificial disc also includes a first retaining member connected to the first surface of the resilient core, and a second retaining member connected to the second surface of the resilient core. The first retaining member has an outer surface engageable with the first vertebra of the spinal column and an inner surface facing the first surface of the resilient core. The second retaining member has an outer surface engageable with the second vertebra of the spinal column and an inner surface facing the second surface of the resilient core.

The Office Action states that Bryan discloses an apparatus for replacing a damaged spinal disc in a spinal column. According to the Office Action, the apparatus of Bryan comprises an artificial disc that includes (a) a resilient core (central portion 24 of body 20 of Bryan) having a first surface and a second surface, (b) a first retaining member (support 32 of Bryan) connected to the first surface of the resilient core, and (c) a second retaining member (support 34 of Bryan) connected to

the second surface of the resilient core. The Office Action also states that the first retaining member of Bryan has an outer surface (surface 52 of Bryan) engageable with a first vertebra of the spinal column and an inner surface (surface 62 of Bryan) facing the first surface of the resilient core. The Office Action further states that the second retaining member of Bryan has an outer surface (surface 54 of Bryan) engageable with the second vertebra of the spinal column and an inner surface (surface 64 of Bryan) facing the second surface of the resilient core. Lastly, according to the Office Action, the apparatus of Bryan comprises a first mounting member (cannulated screw device 82 of Bryan, which comprises screw 92 and screw anchor 102). The Office Action then asserts that, based on the structure of the apparatus of Bryan, it is inherent that a method for replacing a damaged spinal disc between first and second vertebrae would comprise: (a) connecting a first mounting member (cannulated screw device 82 of Bryan) with the first vertebra of the spinal column and (b) moving an artificial disc between the first and second vertebrae and into engagement with the first mounting member (see screw anchor 102 of Bryan) to guide the artificial disc into position between the first and second vertebrae.

It is respectfully submitted that Bryan does not anticipate the method of claim 1, as amended, in that each and every element recited in claim 1 is not disclosed by Bryan as required by 35 U.S.C. §102(b).

First, contrary to the statement in the Office Action, the supports 32 and 34 of Bryan are not connected to the adjacent surfaces of the nuclear central portion 24 of body 20. This lack of connection is pointed out at column 8, lines 3-5 and column 7,

lines 10-15 of Bryan. The supports 32 and 34 of Bryan merely contact the adjacent surfaces of the nuclear central portion 24 so that relative sliding motion between the supports and the core is possible.

Second, as stated at column 7, lines 2-9 of Bryan, the concaval-convex elements of Bryan (which, as described at column 4, lines 10-19, are the supports 32 and 34) are inserted between two milled vertebrae 12 and 14. The elements 32 and 34 are then attached by anchors 102 and 104 to the bone. As shown in Fig. 3 of Bryan and described at column 4, lines 25-34 of Bryan, the anchors 102 and 104 receive screws 92 and 94 that extend through openings in the elements 32 and 34. Thus, the endoprosthesis 18 of Bryan is fully inserted between the two vertebrae before the support 32 contacts the screw anchor 102, which the Office Action asserts is the first mounting member of Bryan (i.e., "see screw anchor 102"). Because the endoprosthesis 18 of Bryan is fully inserted before contacting the screw anchor 102, the endoprosthesis is not moved into engagement with the first mounting member to guide the endoprosthesis into position between the first and second vertebrae, as required by claim 1. Likewise, as the Office Action at one point appears to suggest that the combination of screw anchor 102 and the screw 92 is the mounting member of Bryan, the screw 92 of Bryan does not guide movement of the disc endoprosthesis 18 into position between the first and second vertebrae as recited by claim 1 because the elements 32 and 34 of the disc endoprosthesis 18 of Bryan have already been positioned before the screw 92 is inserted into the anchor 102. Since Bryan does not disclose these elements of claim 1, Bryan cannot anticipate

claim 1 under 35 U.S.C. §102(b). Claim 1 is therefore novel and allowable over Bryan.

Claim 14, as amended, and claims 2, 5-9, 11-13, 15-16, 19-23 and 26-29 depend, directly or indirectly, from claim 1 and are allowable for at least the reasons given in the immediately preceding discussion of claim 1 and further for the recitations contained in those claims. It is thus respectfully submitted that claim 14, as amended, and claims 2, 5-9, 11-13, 15-16, 19-23 and 26-29 define over Bryan, and withdrawal of this rejection of claim 14, as amended, and claims 2, 5-9, 11-13, 15-16, 19-23 and 26-29 is respectfully requested.

**3. Rejection of Claims 1-2, 4, 10, 15-16, 18 and 25 Under**  
**35 U.S.C. §103(a)**

Claims 1-2, 4, 10, 15-16, 18 and 25 have been rejected as unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,893,889 to Harrington (hereinafter, "Harrington") in view of Bryan. It is respectfully submitted that claim 1, as amended, and claims 2, 4, 10, 15-16, 18 and 25 define over the cited art.

The Office Action states that Harrington teaches an apparatus for replacing a damaged spinal disc in a spinal column. According to the Office Action, the apparatus of Harrington comprises an artificial disc that includes (a) a resilient core (member 68 of Harrington) having a first surface and a second surface, (b) a first retaining member (member 32 of Harrington) connected to the first surface of the core, and (c) a second retaining member (member 34 of Harrington) connected to the second surface of the core. The Office Action also states that the first retaining member of Harrington has an outer surface (surface 36 of Harrington) engageable

with a first vertebra and an inner surface (surface 58 of Harrington) facing the first surface of the core. The Office Action further states that the second retaining member of Harrington has an outer surface (surface 40 of Harrington) engageable with the second vertebra and an inner surface (surface 44 of Harrington) facing the second surface of the core. According to the Office Action, Harrington teaches the use of mounting members (screws 64, 66, 47 and 48 of Harrington) and that the inner surfaces (heads of screws 64, 66, 47 and 48 of Harrington) of Harrington's mounting members face and are spaced from the core. Lastly, according to the Office Action, Harrington teaches that each retaining member has two guides (holes 60 in member 32 and unlabeled holes in member 34 of Harrington) that extend parallel to each other.

The Office Action notes that Harrington fails to teach that the artificial disc is moved into engagement with the first and second mounting members. The Office Action then asserts that Bryan teaches an apparatus in which there are first (cannulated screw device 82 which comprises screw 92 and screw anchor 102) and second (cannulated screw device 84 which comprises screw 94 and screw anchor 104) mounting members. Therefore, the Office Action asserts, it would have been obvious to one of ordinary skill in the art to modify the mounting members of Harrington with mounting members of the sort suggested by Bryan as doing so would provide a guide (line up the openings in the upper and lower members 32 and 34 of Harrington with openings in the screw anchors 102 and 104 of Bryan) for implantation of the artificial disc and a secure means to attach the first and second retaining members to the vertebrae. The Office Action also asserts that, from the



foregoing hypothetical modified apparatus of Harrington, it flows that a method for replacing a damaged spinal disc would comprise (a) connecting a first mounting member (see screw anchor 102 of Bryan) with a first vertebra of the spinal column and (b) moving an artificial disc between the vertebrae and into engagement with first mounting member (screw anchor 102 of Bryan) to guide the artificial disc into position between the first and second vertebrae.

It is respectfully submitted that the proposed combination of Harrington and Bryan does not result in the method of claim 1 nor does it render the method of claim 1 obvious to one of ordinary skill in the art as required by 35 U.S.C. §103(a).

First, contrary to the assertion in the Office Action, the members 32 and 34 of Harrington are not connected to surfaces of the shock absorbing member 68 of Harrington. The shock absorbing member 68 is illustrated in spaced relationship to the members 32 and 34 of Harrington, and there is no disclosure or suggestion in Harrington that the members 32 and 34 are connected to surfaces of the shock absorbing member 68. Bryan does not overcome this shortcoming of Harrington because the supports 32 and 34 of Bryan are similarly not connected to the adjacent surfaces of the nuclear central portion 24 of body 20, as discussed above.

Second, as noted in the Office Action, Harrington does not disclose or suggest moving an artificial disc into engagement with a first mounting member to guide the artificial disc into position between first and second vertebrae, as recited in claim 1. As stated at column 4, lines 22-27 of Harrington, the prosthesis disc 18 of Harrington is inserted around the spinal cord of a patient and between upper and lower vertebrae by a surgeon. Once the prosthesis 18 is properly positioned

between the vertebrae, the surgeon tightens the screws in place using a right angle drilling tool. As shown in Fig. 2 of Harrington and described at column 3, lines 26-29 and 52-57 of Harrington, the screws 64, 66, 47 and 48 of Harrington extend through holes 60 in member 32 and unlabeled holes in member 34 of Harrington. Thus, the screws 64, 66, 47 and 48 of Harrington, which the Office Action asserts are the "mounting members" of Harrington, engage the prosthesis disc 18 before being connected to the first vertebra by the surgeon and after the prosthesis disc 18 has been properly positioned between the vertebrae by a surgeon. Thus, the prosthesis disc of Harrington is not moved into engagement with the screws 64, 66, 47 and 48 of Harrington to guide movement of the prosthesis disc into position between the first and second vertebrae as recited by claim 1 because the surgeon has already positioned the prosthesis disc 18 of Harrington between the vertebrae before the screws engage the prosthesis disc.

Bryan does not overcome the foregoing shortcoming of Harrington. As previously explained, Bryan does not disclose the method of claim 1, and claim 1 is novel over Bryan. First, the supports 32 and 34 of Bryan merely contact the adjacent surfaces of the nuclear central portion 24 so that relative sliding motion between the supports and the core is possible. They are not connected with the surfaces of nuclear central portion 24, as required by amended claim 1. Second, the endoprosthesis 18 of Bryan is fully inserted between two vertebrae before the supports 32 and 34 contact the screw anchors 102 and 104. Because the endoprosthesis 18 of Bryan is fully inserted before contacting the screw anchors 102 and 104, the endoprosthesis is not moved into engagement with a first mounting

member to guide the endoprosthesis into position between the first and second vertebrae, as required by claim 1. Although the Office Action refers to an apparently visual lining up of openings, claim 1 recites moving an artificial disc into engagement with the first mounting member to guide the disc into position between the first and second vertebrae. Apart from the obvious difficulties associated with trying to see and line up the holes in the members 32 and 34 of Harrington with openings in screw anchors such as those disclosed in Bryan, such visual alignment techniques are not and do not suggest moving an artificial disc into engagement with a mounting member to guide the disc into position between the first and second vertebrae. Since neither Bryan nor Harrington discloses or suggests these elements of the method of claim 1, claim 1, as amended, is neither suggested nor taught by the proposed combination of references and is allowable over the cited art.

Claims 2, 4, 10, 15-16, 18 and 25 depend, directly or indirectly, from claim 1 and are allowable for at least the reasons given in the foregoing discussion of claim 1 and further for the recitations contained in those claims. It is thus respectfully submitted that claims 2, 4, 10, 15-16, 18 and 25 define over the cited prior art, and withdrawal of this rejection of claims 2, 4, 10, 15-16, 18 and 25 is respectfully requested.

**4. Rejection of Claims 3 and 17 Under 35 U.S.C. §103**

Claims 3 and 17 have been rejected as unpatentable under 35 U.S.C. §103(a) over Harrington in view of Bryan and further in view of Lego brand blocks and U.S. Patent Application Publication US 2002/0143333 to von Hoffmann et al. (hereinafter,

“von Hoffmann”). It is respectfully submitted that claims 3 and 17 define over the cited art.

Claim 3 depends indirectly from claim 1 and recites a method as defined in claim 2 wherein the step of engaging the first mounting member with a guide on the first retaining member includes engaging the first mounting member with a guide extending from the outer surface of the first retaining member and engaging the first vertebra with the guide.

Claim 17 also depends indirectly from claim 1 and recites a method as defined in claim 16 wherein the step of engaging the first mounting member with a first guide on the first retaining member includes engaging the first mounting member with the first guide extending from the outer surface of the first retaining member and engaging the first vertebra with the first guide. Also, as recited in claim 17, the step of engaging the second mounting member with a second guide on the second retaining member includes engaging the second mounting member with the second guide extending from the outer surface of the second retaining member and engaging the second vertebra with the second guide.

The Office Action appears to begin with the previously discussed hypothetical combination of Harrington and Bryan. According to the Office Action, the hypothetical combination of Harrington and Bryan fails to teach that guides extend from outer surfaces of the retaining members. The Office Action states that Lego brand blocks are designed such that the upper surface of each block has male portions that guide its fit into female portions located on the lower surface of another block. The Office Action also states that von Hoffmann teaches a screw device

where a screw extends through an anchor housing (housing 38 of von Hoffmann) comprising a hollow tubular portion and a flange (flange 44 of von Hoffmann). The Office Action then asserts that it would have been obvious to one of ordinary skill in the art to modify the proposed combination of Harrington and Bryan with protrusions, similar to the male portions of Lego brand blocks, extending from the outer surfaces of the retaining members and adapted to fit with the screw anchors of Bryan and designed similar to the anchor housing taught by von Hoffmann as such protrusions would provide a better guide for insertion of the artificial disc and would more stably secure the artificial disc to the screw anchors and thus to the vertebrae. The Office Action also asserts that, from the foregoing hypothetical thrice-modified apparatus of Harrington, it flows that a method for replacing a damaged spinal disc would comprise the step of engaging the first mounting member (screw anchor 102 of Bryan) with a guide (see Lego brand blocks and housing 38 of von Hoffmann) on the first retaining member and, specifically, engaging the first mounting member with a guide extending from an outer surface of the first retaining member and engaging the first vertebra with the guide. The Office Action makes a similar assertion with respect to engaging the second mounting member with a guide extending from an outer surface of the second retaining member and engaging the second vertebra with the second guide.

As previously explained with respect to the rejection of claim 1 as being unpatentable under 35 U.S.C. §103(a) over Harrington in view of Bryan, the combination of Harrington and Bryan does not disclose or suggest the method of

claim 1, as amended, and claim 1, from which claims 3 and 17 depend, is patentable over the combination of Harrington and Bryan.

As to Lego brand blocks, they are toy building blocks. They do not disclose and do not suggest a method for replacing a damaged spinal disc between first and second vertebrae of a spinal column. Even if there were such a suggestion or teaching in Lego brand blocks, assembling two such blocks to one another requires the blocks and their respective male and female portions to be aligned before the male portions can be pushed into the female portions. The proposed use of the male and female portions of such blocks that is hypothesized in the Office Action would, therefore, require the male guide extending from the first retaining member to be aligned with the female portion of the first mounting member before they were engaged with one another. As a result, the artificial disc hypothesized in the Office Action would have to be properly positioned between the vertebrae before the male "guide" on the artificial disc engaged the first mounting member to perform its asserted "guiding" function. In contrast, the guide extending from the outer surface of the first retaining member, as recited in both claim 3 and claim 17, guides movement of the first retaining member into position between first and second vertebrae. (See claims 2 and 16, from which claims 3 and 17, respectively, depend.) Consequently, Lego brand blocks in no way disclose or suggest the step of engaging a first mounting member with a guide extending from the outer surface of a first retaining member and engaging the first vertebra with the guide, as recited in claims 3 and 17.

von Hoffmann discloses a method of fixing femoral fractures. In the method of von Hoffmann, as described beginning at the top of page 6, in paragraphs 0066 and 0067, a clinician drills a hole 80 through the proximal femur. A fixation device 12 is then advanced into the hole 80. The fixation device 12 either carries a proximal anchor 36 or the proximal anchor 36 is attached after the body 28 of the fixation device 12 is within the hole 80. The proximal anchor 36 includes the housing 38 identified in the Office Action as the guide of von Hoffmann. Thus, contrary to the apparent assertion in the Office Action, the housing 38 does not guide the fixation device 12. Moreover, even if the housing 38 did perform a guiding function, the proposed use of the housing 38 of von Hoffmann that is hypothesized in the Office Action would require the guide extending from the first retaining member to be aligned with the female portion of the first mounting member before they were engaged with one another. In contrast, as explained in the preceding paragraph, the guide extending from the outer surface of the first retaining member, as recited in both claim 3 and claim 17, guides movement of the first retaining member into position between first and second vertebrae. Consequently, von Hoffmann in no way discloses or suggests the step of engaging a first mounting member with a guide extending from the outer surface of a first retaining member and engaging the first vertebra with the guide, as recited in claims 3 and 17.

Claims 3 and 17 depend indirectly from claim 1, and are allowable for at least the reasons given in the discussion of claim 1 in connection with its rejection as unpatentable under 35 U.S.C. §103(a) over Harrington in view of Bryan and the reasons given in the preceding paragraphs and further for the recitations contained

in those claims. It is thus respectfully submitted that claims 3 and 17 define over the cited art, and withdrawal of the rejection of claims 3 and 17 is respectfully requested.

**5. Rejection of Claims 1 and 30-33 Under 35 U.S.C. §103(a)**

Claims 1 and 30-33 have been rejected as unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,401,269 to Büttner-Janz et al. (hereinafter, "Büttner-Janz") in view of Bryan and U.S. Patent No. 5,314,477 to Marnay (hereinafter, "Marnay"). It is respectfully submitted that claims 1 and 30-33, as amended, define over the cited art.

The Office Action states that Büttner-Janz teaches an apparatus for replacing a damaged spinal disc in a spinal column. According to the Office Action, the apparatus of Büttner-Janz comprises an artificial disc that includes (a) a core (core 3 of Büttner-Janz) having a first surface and a second surface, (b) a first retaining member (plate 2 of Büttner-Janz) connected to the first surface of the core, and (c) a second retaining member (plate 1 of Büttner-Janz) connected to the second surface of the core. The Office Action also states that the first retaining member of Büttner-Janz has an outer surface engageable with a first vertebra and an inner surface facing the first surface of the core. The Office Action further states that the second retaining member of Büttner-Janz has an outer surface engageable with a second vertebra and an inner surface facing the second surface of the core. The Office Action notes that Büttner-Janz fails to teach (a) a core that is resilient, (b) a first mounting member, and (c) openings in the first and second retaining members to receive a surgical tool.



The Office Action then states that Bryan teaches an apparatus where the core is a resilient core (portion 24 of Bryan) and a first mounting member (cannulated screw device 82 of Bryan which comprises screw 92 and screw anchor 102). In addition, according to the Office Action, Marnay teaches an apparatus where a first retaining member (plate 110 of Marnay) includes an opening (holes 115 and 116 of Marnay) into which a portion (rods 812 and 813 of Marnay) of a surgical tool extends. Further, according to the Office Action, Marnay teaches an apparatus where a second retaining member (plate 120 of Marnay) includes an opening (holes 125 and 126 of Marnay) into which a portion (rods 822 and 823 of Marnay) of a surgical tool extends. Therefore, the Office Action asserts, it would have been obvious to one of ordinary skill in the art to modify the apparatus of Büttner-Janz (a) with a resilient core, as suggested by Bryan, as doing so would enable the apparatus to more accurately mimic the natural movement of the spinal column by allowing compression, (b) with a mounting member, as suggested by Bryan, as doing so would provide a secure means to attach the first retaining member to the first vertebra, and (c) with openings in the retaining members, as suggested by Marnay, as it would facilitate insertion of the artificial disc into the intervertebral space. The Office Action also asserts that, from the foregoing hypothetical modified device of Büttner-Janz, it flows that a method for replacing a damaged spinal disc would comprise (a) connecting a first mounting member (screw anchor 102 of Bryan) with a first vertebra of the spinal column and (b) moving an artificial disc between the vertebrae and into engagement with first mounting member (screw anchor 102 of

Bryan) to guide the artificial disc into position between the first and second vertebrae.

Bryan does not overcome the shortcomings of Büttner-Janz that are acknowledged in the Office Action. As set out previously Bryan does not disclose the method of claim 1, as amended. The endoprosthesis 18 of Bryan is fully inserted between two vertebrae before the supports 32 and 34 contact the screw anchors 102 and 104. Because the endoprosthesis 18 of Bryan is fully inserted before contacting the screw anchors 102 and 104, the endoprosthesis is not moved into engagement with the first mounting member to guide the endoprosthesis into position between the first and second vertebrae, as required by claim 1. Since Bryan does not disclose or suggest these elements of the method of claim 1, and since the Office Action did not apply Marnay in the rejection of claim 1, amended claim 1 is neither suggested nor taught by the proposed combination of references and is allowable over the cited art.

Claims 30-33 depend, directly or indirectly, from claim 1, and are allowable, as amended, for at least the reasons given in the preceding discussion of claim 1 and further for the recitations contained in those claims. It is therefore respectfully submitted that claims 1 and 30-33 define over the cited art, and withdrawal of this rejection of claim 1 and claims 30-33 is respectfully requested.

**6. Allowable Subject Matter**

The Office Action indicates that claim 24 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. In view of the foregoing remarks concerning the patentability of

claims 1, 15 and 22, from which claim 24 depends, either directly or indirectly, claim 24 is considered to be in condition for allowance in its present dependent form, and allowance of dependent claim 24 is respectfully requested.

**7. New Claim 34**

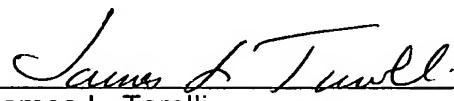
Claim 34 depends from claim 1 and is allowable for at least the same reasons as claim 1 and for the recitations contained in claim 34.

**V. Conclusion**

In view of the foregoing amendment and remarks, it is respectfully submitted that claims 1-34 define over the cited art. Withdrawal of the rejections of the claims and the passage of the application to issue is therefore requested.

Please charge any deficiency or credit any overpayment in the fees for this matter to our Deposit Account No. 20-0090.

Respectfully submitted,

  
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